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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/866,781	05/30/2001	Daping Chu	109677	5070

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OLIFF & BERRIDGE, PLC
P.O. BOX 19928
ALEXANDRIA, VA 22320

EXAMINER	
HU, SHOUXIANG	
ART UNIT	**PAPER NUMBER**
2811	

DATE MAILED: 05/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/866,781	CHU, DAPING	
	Examiner	Art Unit	
	Shouxiang Hu	2811	

-- The MAILING DATE of this communication app ars on th cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) *7-10,15 and 16* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6 and 11-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *02/06/01; 03/10/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Claims 7-10 and 15-16 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 20040311.

2. Applicant's election with traverse of claims 1-6 and 11-14 in the above Paper No. is acknowledged. The traversal is on the ground(s) that the search and examination for both of Group I and Group II inventions could be made without serious burden. This is not found persuasive as explained below.

As stated in the previous Office action, the election/restriction requirement between Group 1 and Group 2 inventions are based on election between two linked inventions that each have their own class/subclass, for the purpose expediting the search and examination process. Although only a few class/subclass were given for them in the previous Office action, a search of the Group I invention requires thorough search of class/subclasses of 257/295-311, and 532; while thorough search of class/subclasses of 438/3, 238-256, 393-399 would be required for the Group II invention. Apparently, search and examination for both of Group I and Group II inventions would impose serious burden upon the examiner. Besides, the election/restriction requirement is subject to the allowability of the identified linking claims. Upon the allowance of the linking claim(s), the restriction requirement as to the

linked inventions shall be withdrawn; and the non-elected Group 2 invention will be considered for rejoinder.

The requirement is still deemed proper.

Accordingly, claims 1-16 are pending in this application; and claims 1-6 and 11-14 remain active in this Office action.

Claim Objections

3. Claims 1-6 and 11-14 are objected to because of the following informalities and/or defects:

In claim 1, the term of "one layer" should read as: --one of the two layers--.

In claims 3 and 11, the term of "two layers" should read as: --the two layers--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-5 and 11-14, as being best understood in view of the claim objections above, are rejected under 35 U.S.C. 102(b) as being anticipated by Matsumoto (US 3,754,214).

Matsumoto discloses a device structure (see Figs. 1 and 2; also see col. 3, lines 26-40), comprising a plurality of memory devices, each having: a first and second piezoelectric/ferroelectric layers (44 and 42); a common electrode; a comparator(30) and a bottom electrode (48; input or output) and a top electrode (46; output or input), wherein the two piezoelectric/ferroelectric layers are naturally clamped together (at least to a certain degree), as they forms a piezo-transformer and can function as a memory device, same as that of the instant invention.

Furthermore, it is noted that the term of "memory device" recited in the claims may not have the full patentablilty weight as it is in the preamble and only states the purpose or use of the claimed invention, because it has been held that: If the body of a claim fully and intrinsically sets forth all of the limitations of the claimed invention, and the preamble merely states, for example, the purpose or intended use of the invention, rather than any distinct definition of any of the claimed invention's limitations, then the preamble is not considered a limitation and is of no significance to claim construction. Pitney Bowes, Inc. v. Hewlett-Packard Co., 182 F.3d 1298, 1305, 51 USPQ2d 1161, 1165 (Fed. Cir.1999). See also Rowe v. Dror, 112 F.3d 473, 478, 42 USPQ2d 1550, 1553 (Fed. Cir.1997).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claim 6, as being best understood in view of the claim objections above rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto in view of Nagasaki (US 5,060,191).

The disclosure of Matsumoto is discussed as applied to claims 1-5 and 11-14 above.

Although Matsumoto does not expressly that the input and output electrodes are parallel with each other and perpendicular to the common electrode, one of ordinary skill in the art would have readily recognized that in a memory device the relevant electrodes are commonly formed perpendicular to each other in order to form an addressable high memory capacitance matrix structure, as evidenced in Nagasaki (see the addressing electrodes 4 and 5 in the cover figure).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the device of Matsumoto with the input and output electrodes being perpendicular to the common electrode, per the teachings of Nagasaki, so that a device with addressable high memory capacitance would be obtained. And, in such a collectively taught device, the input and output electrodes would be naturally parallel with each other, as they are both perpendicular to the common electrode.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. References C-D are cited as being related to a piezo transformer structure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shouxiang Hu whose telephone number is 571-272-1654. The examiner can normally be reached on Monday through Thursday, 7:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie C. Lee can be reached on 571-272-1732. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SH
May 13, 2004

SHOUXIANG HU
PRIMARY EXAMINER